

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK HOSPITALITY & TOURISM OCCUPATIONAL CLUSTER HOSPITALITY MANAGEMENT (VHOSP) - CIP CODE 520901		
Demonstrate sanitation and safety procedures related to food service operations	2.A.01	Successfully complete and obtain National Restaurant Association ServSafe Food Safety certification.	
	2.A.02	Successfully complete and obtain National Restaurant Association Massachusetts Food Allergen certification.	
	2.A.03	Successfully complete and obtain a 10-hour General Industry OSHA certification.	
	2.A.04	Successfully complete and obtain a CPR, Choke Saver and First Aid Training card.	
	2.A.05	Successfully complete and obtain Alcohol Server certification.	
	2.A.06	Follow safety and emergency procedures.	
		2.A.06.01	Outline common causes of typical accidents and injuries in the hospitality and tourism industry.
		2.A.06.02	Practice work habits that provide personal safety, safety for others, and protect the safety and security of the external environment.
		2.A.06.03	Select and use appropriate personal protective equipment at all times.
		2.A.06.04	Maintain a sanitary and clutter-free work environment, following appropriate procedures in the hospitality and tourism industry.
		2.A.06.05	Monitor, use, store, and dispose of hazardous materials according to established procedures.
		2.A.06.06	Identify, describe and demonstrate the effective use of Material Safety Data Sheets (MSDS).
		2.A.06.07	Demonstrate the proper use of a sanitizing solution, utilizing a test kit to assure safe and effective concentration levels.
Define, describe, and compare/contrast the impact of the Tourism and Hospitality industries on the economy and the environment		2.B.01.01	Describe and define the growth and development of the hospitality and tourism industry.
		2.B.01.02	Describe and define the role of lodging as a segment of the hospitality industry.
		2.B.01.03	Describe the role of food and beverage as a segment of the hospitality industry.
		2.B.01.04	Describe the role of recreation as a segment of the hospitality industry.
		2.B.01.05	Describe professional organizations and their contributions to the hospitality industry.
		2.B.01.06	Compare and contrast industry trade periodicals and other industry resources and utilize for information on current trends in industry.
		2.D.01.01	Differentiate and classify destination markets.
		2.D.01.02	Interpret how demographics impact a hospitality operation.
		2.D.01.03	Compare and contrast various types of travel.
		2.D.01.04	Identify and locate local, regional, and world geography relating to destination markets.
		2.D.01.05	Define sustainability and the benefits of "going green", citing examples in the hospitality and tourism industry.
Research current trends in the hospitality industry and apply the knowledge to case study analysis		2.B.01.06	Compare and contrast industry trade periodicals and other industry resources and utilize for information on current trends in industry.
Demonstrate a working knowledge of customer service and guest relations		2.C.01.01	Evaluate the total customer experience and describe its importance to the hospitality and tourism industry.
		2.C.01.02	Discuss the importance of quality customer/guest service.
		2.C.01.03	Compare and contrast the functions of front-of-the-house and back-of-the-house.
		2.C.01.04	Recite and demonstrate characteristics of a customer/guest focused employee.
		2.C.01.05	Identify "Moments of Truth" in the delivery of quality customer/guest service.
		2.C.01.06	Recite and demonstrate key components of good communication skills.
		2.C.01.07	Describe and employ methods of handling customer/guest complaints through resolution.
		2.C.01.08	Differentiate between tangible and intangible products and service skills.
		2.C.01.09	Practice teamwork and identify barriers to the delivery of customer service.
		2.C.01.10	Discuss and formulate methods used to anticipate customer/guest needs including accommodations for the disabled guest.
		2.C.01.11	Demonstrate knowledge of the job as it relates to quality customer/guest service.
Demonstrate a working knowledge of food and		2.E.01.01	Define terminology used in food & beverage service.

beverage industry terminology	2.E.01.02	Identify equipment in a commercial kitchen.
	2.E.01.03	Demonstrate hand tool and equipment operation, emphasizing technique.
	2.E.01.04	Outline beverage risk management and liability.
	2.E.02.01	Perform duties of a dining room attendant/server.
	2.E.02.02	Assemble and maintain restaurant workstations for dining room service.
	2.E.02.03	Describe, demonstrate and differentiate between the types of service and table settings for dining room set-up.
	2.E.02.04	Distinguish and illustrate various types of dining room set-ups.
	2.E.02.05	Demonstrate tray service, coffee carts, special functions and room service.
	2.E.02.06	Apply menu knowledge using suggestive selling technique.
	2.E.02.07	Utilize various procedures for processing guest checks.
	2.E.02.08	Operate a Point of Sales System.
	2.E.02.09	Perform duties of a cashier, following all cash handling procedures.
	2.E.02.10	Perform duties of a host/hostess.
	2.E.02.11	Perform duties of a dining room supervisor.
	2.E.02.12	Organize, arrange and maintain hot and cold buffet service.
	2.E.02.13	Clean and sanitize work areas and stationary equipment.
	2.E.03.01	Perform duties of a quick service attendant/server.
	2.E.03.02	Assemble, maintain and operate workstations for carryout/delivery service.
	2.E.04.01	Describe the role and responsibilities of banquet/catering and special events personnel.
	2.E.04.02	Describe a banquet event order.
2.E.04.03	Identify, describe and illustrate various types of banquet room set-ups.	
2.E.04.04	Coordinate and facilitate the efficient functioning of an event from a banquet event order.	
2.E.04.05	Execute duties of a banquet/catering server and special events personnel.	
2.E.05.01	Categorize the various facilities that fall into institutional dining.	
2.E.05.02	Describe the role and responsibilities of institutional food service personnel.	
2.E.05.03	Summarize Contract Management.	
Demonstrate menu planning, including food costing	2.E.06.01	Analyze portion control as it relates to food cost.
	2.E.06.02	Research various cuisines and describe their relationship to the hospitality and tourism industry.
	2.E.06.03	Critique various types of menus.
	2.E.06.04	Prepare a variety of menus following dietary guidelines.
Define and give specific examples of the employment opportunities that exist in the Food and Beverage Industries	2.F.01.01	Illustrate an organizational chart of departments in a food and beverage property.
	2.F.01.02	Generate a job description defining the role and function of human resource personnel.
	2.F.01.03	Generate a job description defining the role and function of kitchen personnel.
	2.F.01.04	Generate a job description defining the role and function of dining room personnel.
	2.F.01.05	Generate a job description defining the role and function of banquet/catering personnel.
	2.F.01.06	Generate a job description defining the role and function of room service personnel.
	2.F.01.07	Generate a job description defining the role and function of quick serve personnel.
	2.F.01.08	Generate a job description defining the role and function of beverage personnel.
Analyze the financial management of hotels using industry ratios	2.J.01.01	Identify, compare and contrast the different types of revenue generating and support centers.
	2.J.01.02	Explain and tabulate labor cost.
	2.J.01.03	Categorize the different types of operating expenses.
Demonstrate a working knowledge of hospitality industry terminology	2.G.01.01	Characterize types of full service properties.
	2.G.01.02	Characterize types of limited service properties.
	2.G.01.03	Characterize types of specialty accommodations.
	2.G.01.04	Characterize types of institutional housing.
Define and give specific examples of the employment opportunities that exist in the Hospitality Industry	2.H.01.01	Create and illustrate an organizational chart of departments in a lodging property.
	2.H.01.02	Differentiate among the roles of departments and describe their importance to the entire property.
	2.H.01.03	Generate a job description defining the role and function of human resources personnel.

	2.H.01.04	Generate a job description defining the role and function of front office personnel.
	2.H.01.05	Generate a job description defining the role and function of front desk personnel.
	2.H.01.06	Generate a job description defining the role and function of guest services personnel.
	2.H.01.07	Generate a job description defining the role and function of reservations personnel.
	2.H.01.08	Generate a job description defining the role and function of sales personnel.
	2.H.01.09	Generate a job description defining the role and function of housekeeping personnel.
	2.H.01.10	Generate a job description defining the role and function of laundry personnel.
	2.H.01.11	Generate a job description defining the role and function of engineering/maintenance personnel.
	2.H.01.12	Generate a job description defining the role and function of security personnel.
Demonstrate the communication between the front office and other hotel departments	2.I.01.01	State the importance of following the "Generally Accepted Accounting Principles".
	2.I.01.02	Analyze and formulate the training needs of an organization by department.
	2.I.01.03	Construct an effective schedule based on the needs of an organization by department.
	2.I.01.04	Explain the inter-relationships between co-workers and supervisors, respecting diversity in the workplace.
	2.I.01.05	Identify strategies and techniques to satisfactorily handle internal employee relations.
	2.I.01.06	Explain the process/purpose of preventive maintenance.
	2.I.01.07	Outline the work order/maintenance request process.
	2.I.01.08	Summarize loss prevention and safety procedures for guests and personnel.
	2.I.01.09	Describe how to utilize a property management system to support the needs of the guest.
Identify the different market groups and assess how hotels satisfy the group's accommodation needs.	2.K.01.01	Identify the basic principles of marketing.
	2.K.01.02	Analyze pricing in the hospitality industry.
	2.K.01.03	Recite the process of function booking.
	2.K.01.04	Evaluate how customer/guest needs influence marketing.
	2.K.01.05	Discuss place and distribution in the industry.
	2.K.01.06	Compare and contrast upgrading and up selling.
	2.K.01.07	Describe packaging and discount programming.
	2.K.01.08	Review marketing strategies including market segmentation and trend analysis.
	2.K.01.09	Develop a marketing plan.
	2.K.01.10	Assess the importance of product development in the hospitality industry.
	2.K.01.11	Demonstrate the basics of telephone sales skills and telemarketing.
	2.K.01.12	Examine promotion advertising including sales, merchandising, public relations and publicity.
	2.K.01.13	Describe and demonstrate social media strategies.
Demonstrate an awareness of career pathways and job search skills	4.A.01.01	Develop and revise career plan annually based on workplace awareness and skill attainment.
	4.A.01.02	Assess personal strengths and interest areas to determine potential careers, career pathways and career ladders.
	4.A.01.03	Examine potential career field(s)/discipline(s) and identify criteria to select, secure and keep employment in chosen field(s).
	4.A.01.04	Research and evaluate a variety of careers utilizing multiple sources of information and resources to determine potential career(s) and alternatives.
	4.A.01.05	Identify training and education requirements that lead to employment in chosen field(s) and demonstrate skills related to evaluating employment opportunities.
	4.A.01.06	Explore and evaluate postsecondary educational opportunities including degrees and certifications available, traditional and nontraditional postsecondary pathways, technical school and apprenticeships, cost of education, financing methods including scholarships and loans and the cost of loan repayment.
	4.A.01.07	Create a portfolio showcasing academic and career growth including a career plan, safety credential, resume and a competency profile demonstrating the acquisition of the knowledge and skills associated with at least two years of full-time study in the Chapter 74 program.
Students will understand and apply industry specific concepts of business management	5.A.01.01	Define entrepreneurship and be able to recognize and describe the characteristics of an entrepreneur.
	5.A.01.02	Compare and contrast types of business ownership (i.e., sole proprietorships, franchises, partnerships, corporations).

	5.A.01.03	Identify and explain the purpose and contents of a business plan.
	5.A.01.04	Demonstrate an understanding of the principles and concepts of a business's supply chain (i.e., suppliers, producers and consumers).

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Demonstrate the importance of ergonomics, office safety, and security.	2.A.01.01	Demonstrate an understanding of Business Technology health skills.
	2.A.01.02	Describe and demonstrate office and business health practices.
	2.A.01.03	Illustrate proper body mechanics for the workplace including ergonomics.
	2.A.01.04	Explain various ways to reduce stress for employees and customers.
	2.A.01.05	Explain various safety issues with office and business technologies.
	2.A.02.01	Describe and demonstrate office and business safety practices.
	2.A.02.02	Explain and discuss the issues relating to cyber bullying in society.
	2.A.02.03	Explain and discuss concerns relating to electronic mail privacy.
2.A.02.04	Explain and discuss the issues relating to Internet and social media.	
Communicate effectively with coworkers and customers	2.B.01.01	Define and describe methods of effective customer service.
	2.B.01.02	Apply effective listening, written, verbal and nonverbal communication.
	2.B.01.03	Demonstrate appropriate etiquette in communication.
	2.B.01.04	List ways a company can improve the quality of customer service.
	2.B.01.05	Identify proper procedures when dealing with colleagues and customers.
	2.B.01.06	Describe and demonstrate ways to resolve difficult customer situations.
Demonstrate knowledge of records management	2.B.02.01	Demonstrate filing procedures according to current industry standards.
Schedule appointments, plan conferences and arrange business travel	2.B.02.02	Identify and plan various types of business meetings.
	2.B.02.03	Describe and plan different types of business travel.
Demonstrate skills in time management and setting priorities	2.B.02.04	Describe and demonstrate effective time management skills.
Describe various job search techniques	2.B.02.05	Acquire employability skills to secure and maintain employment.
Accurately use alphabetic and numeric keys to touch applying good keyboarding techniques	2.B.03.01	Apply keyboarding techniques according to current industry standards.
Explain the entrepreneurial process of launching and operating a business	2.C.01.01	Define entrepreneurship and describe entrepreneurial characteristics.
	2.C.01.02	Compare and contrast the different forms of business ownership.
	2.C.01.03	Identify the different types of industries and markets.
	2.C.01.04	Identify and explain the elements of a business plan.
	2.C.01.05	Identify federal, state, and local licenses, permits and regulations required to start a business.
	2.C.01.06	Describe options needed to obtain capital to start a business.
	2.C.01.07	Explain and identify staffing needs required to start a business.
Identify and describe the management process	2.C.02.01	Describe and demonstrate effective leadership and teamwork skills.
	2.C.02.02	Describe and demonstrate the decision making process.
	2.C.02.03	Identify challenges of a growing business.
	2.C.02.05	Identify laws and regulations related to managing a business.
	2.C.02.06	Identify and explain staffing needs and issues when managing a business.
	2.C.02.07	Describe and demonstrate business ethics.
	2.C.02.08	Identify ways to dissolve, transfer or sell a business.

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Examine and articulate the impact of the global business environment	2.C.02.04	Explain advantages and disadvantages of a global marketplace.
Identify, describe and differentiate marketing systems	2.C.03.01	Describe and demonstrate effective marketing and promotion skills.
	2.C.03.02	Explain basic marketing strategies including product, place, price and promotion.
	2.C.03.03	Identify and explain the various steps of product development.
	2.C.03.04	Compare and contrast the various tools and techniques used to promote a business.
	2.C.03.05	Use a desktop publishing program to create published media and promotional items.
	2.C.03.06	Explain and discuss the effects of advertising and social media on a business.
	2.C.03.07	Prepare an advertisement message incorporating multimedia, print, and audio.
Plan, record, and control the operating activities of the accounting cycle of a service business	2.D.01.01	Illustrate ways to prepare and create a chart of accounts.
	2.D.01.02	Classify business transactions into debits and credits.
	2.D.01.03	Analyze and record business transactions into a general journal.
	2.D.01.04	Illustrate ways to post information to a general ledger.
	2.D.01.05	Describe and demonstrate how to prove cash and make correcting entries.
	2.D.01.06	Analyze and record adjusting entries into a general journal.
	2.D.01.07	Describe and demonstrate how to complete an accounting worksheet.
	2.D.01.08	Differentiate between temporary and permanent accounts.
	2.D.01.09	Analyze and record closing entries into a general journal.
	2.D.01.10	Complete the accounting cycle and generate financial statements.
Determine net pay using income and social security tax tables	2.D.02.01	Compare and contrast gross and net pay.
	2.D.02.02	Distinguish between the various types of payroll withholdings.
	2.D.02.03	Explain and prepare employment forms for payroll withholding.
	2.D.02.04	Distinguish between the various types of tax liabilities.
Analyze data from work related documents	2.D.02.05	Extrapolate data from a pay stub and financial work related documents.
Record transactions to set up and maintain a computerized accounting system	2.D.03.01	Perform account maintenance for charts of accounts, vendors and customers.
	2.D.03.02	Describe ways to create purchase orders and process a payment to a vendor.
	2.D.03.03	List ways to create invoices and post a payment from a customer.
	2.D.03.04	Describe and demonstrate how to create customer statements.
	2.D.03.05	Complete the accounting cycle and generate financial statements.
Demonstrate fundamental operations relating to whole numbers with speed and accuracy	2.E.01.01	Use decimals, percentages and fractions in calculations.
Utilize email effectively as a means of business professional communication	2.F.01.01	Explain and describe concerns relating to electronic mail privacy.
	2.F.01.02	Create, edit, format, and send electronic mail to a recipient.
	2.F.01.03	Create, edit, format, and send personal and business contacts.
	2.F.01.04	Create, edit, and manage tasks and notes for project management.
	2.F.01.05	Attach files and other items when sending electronic mail.
	2.F.01.06	Differentiate between the various ways to print electronic mail.
	2.F.02.01	Create, edit, and manage distribution lists or contact groups.
	2.F.02.02	Prepare and manage folders for message storage and archiving.
	2.F.02.03	Differentiate between the various options for sending electronic mail.

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	2.F.02.04	List and demonstrate ways to create, edit, and format a signature for electronic mail.
	2.F.02.05	Describe and demonstrate inviting recipients to an appointment or meeting.
	2.F.02.06	Describe and demonstrate formatting, sharing, and sending a calendar.
Understand basic database concepts and terminology and when to use them to solve a business problem.	2.H.01.01	Create, edit, format and tables.
	2.H.01.02	Enter, manipulate, and delete information in datasheet and design view.
	2.H.01.03	Modify field properties and set a primary key.
	2.H.01.04	Join and establish relationships between tables.
	2.H.01.05	Create, edit, format and customize a form.
	2.H.01.06	Enter, manipulate and delete information in datasheet and form view.
	2.H.01.07	Create, edit, format and customize a query.
	2.H.01.08	Utilize a parameter and a crosstab query in a database.
	2.H.01.09	Create, edit, format and customize a report.
Understand advanced database concepts and terminology and when to use them to solve a business problem.	2.H.02.01	Create and use wildcards in specifying criteria.
	2.H.02.02	Describe and demonstrate the advanced use of multiple data types.
	2.H.02.03	Apply a sort and filter to a table, form, report and query.
	2.H.02.04	Use function tools to perform calculations in a table.
	2.H.02.05	Utilize calculated fields in a form, query and report.
	2.H.02.06	Differentiate between the various ways to print information in a database.
	2.H.02.07	Integrate a database with other applications.
Use formulas, functions and formatting to build a worksheet	2.I.01.01	Enter, edit, format and proofread data in rows and columns.
	2.I.01.02	Differentiate between the various ways to view a spreadsheet.
	2.I.01.03	Describe and demonstrate the use of page orientation and setting margins.
	2.I.01.04	Format a spreadsheet using borders, shading, headers and footers.
	2.I.01.05	Apply conditional formatting to data in a spreadsheet.
	2.I.01.06	Demonstrate how to link information on a spreadsheet.
	2.I.01.07	Differentiate between the various ways to print a spreadsheet.
	2.I.02.01	Create, insert and format graphics and pictures in a spreadsheet.
	2.I.02.02	Create, insert and format a chart and a pivot table in a spreadsheet.
	2.I.02.03	Insert internal and external hyperlinks.
Create, sort, and query a table	2.I.03.02	Create, insert and format a simple and custom sort.
	2.I.03.03	Create, insert and format a basic, advanced and custom filter.
Link a spreadsheet to other documents	2.I.03.04	Utilize advanced features to automate, integrate and share information.
Use financial functions, data tables, amortization schedules and hyperlinks	2.I.03.05	Create, insert and format simple and complex formulas.
	2.I.03.06	Create, insert and format simple and nested functions.
	2.I.03.07	Describe and use relative and absolute referencing.
	2.I.03.08	Build formulas or functions that link to other worksheets.
	2.I.03.09	Utilize named ranges for data management, formulas and functions.
	2.I.03.10	Differentiate between the various ways to protect a spreadsheet.
Develop fundamental word processing skills	2.J.01.01	Enter, edit, format and proofread text in a document.
	2.J.01.02	Differentiate between the various ways to view a document.

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	2.J.01.03	Describe and demonstrate the use of page orientation and setting margins.
	2.J.01.04	Format documents using columns, borders and shading.
	2.J.01.05	Format documents using bullets, numbering and multilevel lists.
	2.J.01.06	Describe and demonstrate the use of page breaks and section breaks.
Develop advanced word processing skills	2.J.01.07	Apply and edit headers, footers and page numbering in a document.
	2.J.01.08	Describe and demonstrate the use of tabs and setting tab stops.
	2.J.01.09	Create, save and utilize a document template.
	2.J.01.10	Differentiate between the various ways to print a document.
	2.J.02.04	Create, insert and format charts, graphics and pictures in a document.
	2.J.02.05	Illustrate ways to insert internal and external hyperlinks.
	2.J.03.01	Utilize track changes and comments to review and collaborate on a document.
	2.J.03.02	Describe and demonstrate the various ways to perform a mail merge.
	2.J.03.03	Create, edit and format reference features in a document.
	2.J.03.04	Differentiate between the various ways to protect a document.
	2.J.03.05	Create, edit and format forms and protect a document accordingly.
Create and edit a table	2.J.02.01	Create, edit and format a table and information in a table.
	2.J.02.02	Illustrate ways to enter, edit and sort information in a table.
Create a formula in a table	2.J.02.03	Perform basic mathematical calculations in a table.
Develop fundamental presentation skills	2.K.01.01	Describe the ways to create, edit, format and proofread slides in a presentation.
	2.K.01.02	Differentiate between the various ways to view a presentation.
	2.K.01.03	Describe and demonstrate the use of page orientation and setting margins.
	2.K.01.04	Format a presentation using bullets, slide layouts, headers and footers.
	2.K.01.05	Format a presentation using templates and themes.
	2.K.01.06	Differentiate between the various ways to print a presentation.
	2.K.02.01	Create, edit and format information in a table.
	2.K.02.02	Create, insert and format charts, graphics and pictures in a presentation.
	2.K.02.03	Insert internal and external links.
Develop advanced presentation skills	2.K.03.01	Utilize the comments feature to review and collaborate on a presentation.
	2.K.03.02	Apply animation and slide transition tools on a presentation.
	2.K.03.03	Convert a presentation to be viewed on all types of technology and media.
	2.K.03.04	Differentiate between the various devices used in delivering a presentation.
	2.K.03.05	List and demonstrate ways to effectively present and communicate a presentation.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK HEALTH SERVICES OCCUPATIONAL CLUSTER	
Demonstrate and apply universal or standard precautions and proper body mechanics	2.A Health and Safety Related to Health Careers	
	2.A.01	Demonstrate health and safety practices following professional medical protocols and OSHA standards.
		2.A.01.01 Demonstrate medical asepsis hand wash technique.
		2.A.01.02 Identify methods of transmission of microorganisms.
		2.A.01.03 Demonstrate use of personal protective equipment.
		2.A.01.04 Remove and dispose of contaminated gloves.
		2.A.01.05 Identify, recognize and comply with signage in the health care environment.
		2.A.01.06 Observe and report signs of infection and utilize isolation techniques as needed.
		2.A.01.07 Use industry recommended procedure for client identification.
		2.A.01.08 Demonstrate safe practices while administering patient care activities.
		2.A.01.09 Transfer client with a mechanical lift following all state and federal requirements.
		2.A.01.10 Identify and define emergency codes used in office/medical facility.
		2.A.01.11 Demonstrate needle safety and sharps disposal.
	2.A.01.12 Explain handling and disposal of bio-hazardous materials.	
Earn a current certification in First Aid	2.A.02	Obtain First Aid Certification
		2.A.02.01 Identify the general principles of first aid.
		2.A.02.02 Identify and demonstrate skills for medical emergencies.
		2.A.02.03 Identify and demonstrate skills for injury emergencies.
		2.A.02.04 Identify and demonstrate skills for environmental emergencies.
Earn a current certification in CPR at the Health Care Provider-level	2.A.03	Obtain Healthcare Provider CPR.
		2.A.03.01 Identify and demonstrate adult CPR.
		2.A.03.02 Identify and demonstrate child and infant CPR.
		2.A.03.03 Identify and demonstrate skills for the removal of foreign-body airway obstruction.
		2.A.03.04 Identify and demonstrate use of automated external defibrillation with CPR.
Demonstrate a caring attitude and behavior in all professional interactions; Explain the nurse aide's role in health care; Explain the laws and ethical issues in health care relating to patients rights; Demonstrate techniques to enhance communication between health professionals and patients; Demonstrate proper observation and reporting procedures; Explain how stress effects health; Identify ways to manage stress	2.B Communication Skills Related to Health Careers	
	2.B.01	Summarize the fundamentals of the healthcare industry.
		2.B.01.01 Identify settings in which health care is provided.
		2.B.01.02 Identify the organizational structure of the health care team.
		2.B.01.03 Demonstrate professional and ethical behavior in clinical practice.
		2.B.01.04 Demonstrate telephone techniques appropriate to a health care setting.
		2.B.01.05 Summarize the residents'/patients' Bill of Rights.
		2.B.01.06 Summarize and demonstrate HIPAA regulations.
		2.B.01.07 Describe the role of the mandated reporter.
		2.B.01.08 List the steps for resident/client identification.
		2.B.01.09 Demonstrate verbal and non-verbal communication.
		2.B.01.10 Identify barriers to open communication.
		2.B.01.11 Explain and demonstrate techniques used to effectively communicate with a patient who has a visual or hearing deficit.
		2.B.01.12 Demonstrate observation skills.
		2.B.01.13 Give a verbal client report.
	2.B.01.14 Complete a written client report.	
	2.B.01.15 Demonstrate organization of the information in a patient file, electronic file or chart and describe how to process the correction of an error.	

		2.B.01.16	Demonstrate the maintenance of or write technical information in a patient file.
		2.B.01.17	Complete incident/variance report.
		2.B.01.20	Demonstrate and list compliance with appropriate health and safety regulations.
		2.B.01.21	List reasons for the use of electronic medical records for documentation of assessments and interventions for client care.
		2.C.01.01	Explain importance of responding to client needs in a timely, compassionate and professional manner.
		2.C.01.02	List strategies used to maintain client dignity and list strategies to maintain client privacy at all times.
Identify the organs and structures of the body systems; Understand the primary functions of the body systems; Define the word roots, suffixes, and medical words; Understand the meaning of the new medical words by the elements; Define common medical abbreviations and medical terms; Master pronunciation and spelling of medical terms		2.B.01.18	Use appropriate medical terminology and abbreviations.
Explain procedures for and obtain the patient's vital signs, height, and weight		2.C.01.05	Describe the normal ranges for each of the vital signs.
		2.C.01.06	Measure and record body temperature using electronic, glass, digital thermometers but not limiting to.
		2.C.01.07	Measure and record pulse from the eight pulse sites.
		2.C.01.08	Measure and record vital signs.
		2.C.01.10	Measure and record height and weight.
Provide basic care in the activities of daily living to patients of all ages under the direct supervision of a registered nurse in healthcare facilities or private homes.	2.C.02		Assist the client in the activities of daily living.
		2.C.02.01	Identify and list ways to encourage independence in personal care for the client.
		2.C.02.02	Demonstrate bed making appropriate to patient's needs.
		2.C.02.03	Assist client with appropriate personal hygiene.
		2.C.02.04	Assist with undressing/dressing needs of the client.
		2.C.02.05	Provide daily routine hair care.
		2.C.02.06	Provide routine foot care.
		2.C.02.07	Provide fingernail care.
		2.C.02.08	Assist with shower.
		2.C.02.09	Perform complete bed bath.
		2.C.02.10	Provide client skin care.
		2.C.02.11	Shave facial hair.
		2.C.02.12	Assist with care of dental appliances.
		2.C.02.13	Provide oral hygiene.
		2.C.02.14	Explain the use and care of hearing appliances.
		2.C.02.15	Demonstrate routine uses and care of glasses.
Describe ways to test joint mobility, muscle strength, gait, and posture		2.C.02.16	Assist with range of motion exercises.
Describe the structures that form the urinary systems and explain their function. Demonstrate knowledge of skills related to elimination	2.C.03		Assist, perform, and document skills related to elimination.
		2.C.03.01	Assist client to bathroom.
		2.C.03.02	Assist client with bed pan/urinal.
		2.C.03.03	Assist client with use of commode.
		2.C.03.04	Empty urinary drainage bag.
		2.C.03.05	Provide Foley catheter care.
		2.C.03.06	Identify and report urine abnormalities.

		2.C.03.07	Demonstrates straining urine when required.
		2.C.03.08	Describe care of ostomy drainage system.
		2.C.03.09	Provide skin care for ostomy client.
		2.C.03.10	Identify and report stool abnormalities.
		2.C.03.11	Record intake and output according to facility.
		2.C.03.12	Collect specimens for laboratory analysis.
		2.C.03.13	Perform urine dipstick test.
		2.C.03.14	Collect specimens for occult blood testing.
		2.C.03.15	Assist in skin care for the incontinent client.
		2.C.03.16	Describe and document bowel movements.
Demonstrate skill in applying restraints		2.C.04.02	Demonstrate procedure for applying restraints.
Demonstrate skill in fire safety		2.C.04.03	Demonstrate use of alarm devices.
Demonstrate skill in rehabilitation, range of motion, and positioning		2.C.04.06	Demonstrate proper use of transfer/Gait Belt.
		2.C.04.07	Demonstrate use of assistive equipment for ambulation.
		2.C.04.08	Demonstrate use of adaptive devices and assistive equipment.
		2.C.04.09	Demonstrate safe use of a wheel chair.
		2.C.04.10	Demonstrate the transfer of a client to chair or wheelchair.
		2.C.04.11	Transport client on stretcher.
Explain grief and loss; Identify care procedures for the dying patient		2.C.04.12	Describe post-mortem care procedures.
		2.C.05.04	Explain care for the dying client/family.
Describe and explain proper nutrition and hydration; Measure a patient's intake and output	2.C.06		Assist a client with nutrition and hydration.
		2.C.06.01	Setup and serve patient tray.
		2.C.06.02	Identify appropriate tray for patient according to their prescribed diet as noted on their care plan.
		2.C.06.03	Identify therapeutic diets.
		2.C.06.04	Prepare client for mealtime.
		2.C.06.05	Assist in helping patient feed self.
		2.C.06.06	Feed client requiring complete assistance.
		2.C.06.07	Adapt nutrition to patients with physical problems as ordered.
		2.C.06.08	Measure the patient's intake and output of fluids and record using approved documentation tool.
		2.C.06.09	Report signs of dehydration.
		2.C.06.10	Record patient's food intake using appropriate documentation tool.
Demonstrate skills in dealing with patients with dementia	2.C.07		Assist a client with cognitive or memory impairments.
		2.C.07.01	Describe forms, symptoms, and causes of cognitive impairment.
		2.C.07.02	Recognize and report mental status changes.
		2.C.07.03	Demonstrate safety techniques used in caring for cognitive impaired clients.
		2.C.07.04	Describe behavior interventions used in caring for cognitive impaired client.
Demonstrate knowledge of principles of growth and development	2.D Growth and Development Principles across the Lifespan		
	2.D.01		Demonstrate knowledge of principles of growth and development.
		2.D.01.01	List factors that promote a healthy pregnancy.
		2.D.01.02	Name factors that may have an adverse effect on pregnancy.
		2.D.01.03	Describe the growth and development characteristics across the lifespan.
		2.D.01.04	Describe the nutritional needs across the lifespan.
		2.D.01.05	List health promoting activities across the lifespan.

		2.D.01.06	Identify procedures used with pediatric patients and patients with special needs.
Pass the written and skills demonstration MA State examination and be placed on the Nurse Aide Registry.	2.E Certification/Specialty programs.		
	2.E.01	Complete Certification/Specialty Programs consisting of at least 280 hours of instructional time.	
	2.E.01.01	Complete specialty programs which meet required state and national standards. A specialty program, or combination of programs, should consist of no less than 280 hours in length	

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK HEALTH SERVICES OCCUPATIONAL CLUSTER		
Identify the recommended standard precautions for preventing the transmission of disease in the health care setting		2.A.01.06	Demonstrate practices while administering patient care activities according to current industry and OSHA standards.
		2.A.01.07	Demonstrate barrier protection according to current industry and OSHA standards.
		2.A.01.08	Define emergency codes used in office/medical facility.
		2.A.01.09	Demonstrate needle safety and sharps disposal.
		2.A.01.10	Explain handling and disposal of bio-hazardous materials according to current industry and OSHA standards.
		2.A.01.11	Recognize signage in the healthcare environment.
		2.A.01.12	Remove and dispose of contaminated gloves according to current industry and OSHA standards.
		2.A.01.01	Demonstrate medical asepsis hand wash technique.
Identify and describe conditions that promote the growth of pathogens		2.A.01.03	Identify methods of transmission for microorganisms.
		2.A.01.04	Demonstrate transfer techniques according to current industry and OSHA standards.
		2.A.01.05	Observe and report signs of infection and utilize isolation techniques as needed.
Recognize the communication process and what is involved when dealing with people in office situations		2.B.01.02	Identify the organizational structure of the health care team.
	2.B.02		Demonstrate professional behavior in clinical practice.
		2.B.02.01	Demonstrate the standards of a professional appearance.
		2.B.02.02	Demonstrate qualities of a healthcare worker.
Describe patient rights focusing on the right to privacy and confidentiality; Identify how the Health Information Portability and Accountability Act (HIPAA) affects health care in the medical office		2.B.02.03	Summarize the patients' Bill of Rights and the Health Insurance Portability and Accountability Act (HIPAA).
Recognize and respond to non-verbal communication effectively	2.C.01		Demonstrate verbal and nonverbal communication.
		2.C.01.01	Demonstrate introduction of self to patient and confirm patient identification.
		2.C.01.02	Adapt communication according to the patient's needs.
Describe barriers to communication encountered in a health care setting		2.C.01.03	Identify barriers to open communication.
Describe proper documentation of vital signs and anthropometric measurements		2.C.01.04	Provide a verbal patient report.
		2.C.01.05	Complete a written patient report.
Identify the organs and structures of the body systems; Understand the primary functions of the body systems; Define the word roots, suffixes, and medical words; Understand the meaning of the new medical words by the elements; Define common medical abbreviations and medical terms; Master pronunciation and spelling of medical terms		2.C.02.02	Employ the use of appropriate terms and abbreviations.
Describe the procedure for conducting the health history and interview	2.C.02		Collect a medical history.
		2.C.02.01	Identify and record pertinent allergies and current medications.
		2.C.02.02	Employ the use of appropriate terms and abbreviations.

	2.C.03	Demonstrate how to respond to patients' needs.
	2.C.03.01	Explain importance of responding to a patient's needs in a timely, compassionate and professional manner.
	2.C.03.02	Demonstrate respect for cultural diversity and orientations.
	2.C.03.03	List strategies used to maintain patient dignity at all times.
	2.C.03.04	Accommodate patients with special needs.
Acquire a basic knowledge of records management	2.D.01.01	Manage and locate elements of a patient file.
	2.D.01.02	Maintain patient contact information records.
	2.D.01.03	Retrieve patient files.
	2.D.01.04	Correct an error manually and electronically.
	2.D.01.05	Electronically file results and/or correspondence.
Explain how to make an entry into a patient's medical record	2.D.01.06	Maintain appropriate documentation on each patient chart.
	2.D.01.07	Document vital signs, including height and weight.
Familiarize oneself with making appointments	2.E.01.01	Maintain an appointment matrix.
	2.E.01.02	Generate daily appointment schedule.
	2.E.01.03	Create, edit and print memos, reports and outlines.
	2.E.01.04	Demonstrate procedures used to register/check in new and established patients.
	2.E.01.05	Perform appointment cancellation procedures.
	2.E.01.06	Process and check patient referrals.
	2.E.01.07	Perform electronic mailing.
	2.E.01.08	Demonstrate basic computer skills.
Become familiar with handling office mail	2.E.02	Screen and process mail.
	2.E.02.01	Organize incoming and outgoing mail.
	2.E.02.02	Prepare packages for shipping.
Describe the procedure between medical and surgical asepsis; Describe the general aseptic practices of sterilization, and high-level, intermediate-level and low-level disinfection	2.A.01.01	Demonstrate medical asepsis hand wash technique.
	2.F.01	Perform medical asepsis.
	2.F.01.01	Perform hand wash technique.
	2.F.01.02	Identify methods of transmission of microorganisms.
	2.F.01.03	Identify and report signs of infection.
	2.F.01.04	Demonstrate needle safety and sharps disposal.
	2.F.01.05	Explain proper handling and disposal of bio-hazardous materials.
	2.F.01.06	Remove and dispose of contaminated gloves according to current industry and OSHA standards.
	2.F.01.07	Perform infection control and safety procedures.
	2.F.02	Perform surgical asepsis.
	2.F.02.01	Demonstrate chemical disinfection of instruments according to current industry and OSHA standards.
	2.F.02.02	Wrap instruments for sterilization in the autoclave.
	2.F.02.03	Perform steam sterilization of instruments (autoclave).
	2.F.02.04	Clean and maintain autoclave.
	2.F.02.05	Operate ultrasonic cleaner.
	2.F.02.06	Prepare and maintain a sterile field.
	2.F.02.07	Identify chemical sterilization.
	2.F.02.08	Prepare a 1:10 bleach and water solution.
Identify appropriate questions to assess patient symptoms adequately	2.G.01	List strategies used to obtain the patient's symptoms.
	2.G.01.01	Obtain the patient's symptoms via telephone
	2.G.01.02	Obtain the patient's symptoms via face-to-face triage.

Obtain CPR certification	2.G.02	Obtain Cardiopulmonary Resuscitation (CPR) certification from the American Heart Association.
		2.G.02.01 Obtain Basic life support for the healthcare provider.
Obtain Frist Aid certification	2.G.02.02	Obtain HeartSaver first aid.
Describe general points that should be considered for examination of a pediatric patient	2.H.01	Assist with a pediatric exam.
		2.H.01.01 Measure and record an infant's height, weight, head and chest circumference.
		2.H.01.02 Calculate Body Mass Index (BMI).
		2.H.01.03 Obtain a urine specimen.
		2.H.01.04 Measure and record vital signs.
Obtain vital signs		2.H.02.01 Measure and record vital signs.
Explain the procedures for measuring the patient's height and weight		2.H.02.02 Measure and record height and weight.
Identify and state the function of the instruments and supplies used for the physical examination		2.H.02.03 Identify common office equipment.
Identify and describe examination positions		2.H.02.05 Prepare patient for various physical examinations.
		2.H.02.06 Assist in positioning and draping patients.
		2.H.02.07 Assist with positioning or transferring during PE (physical examinations).
Describe the procedure for testing visual acuity at a measured distance		2.H.02.08 Perform visual acuity testing.
Describe methods to detect hearing problems		2.H.02.09 Assist with audiometry.
Explain and demonstrate the purpose of the self-breast exam		2.H.03.02 Instruct the patient in self-breast exam.
Apply principles of medical asepsis to eye and ear irrigation		2.H.04.01 Demonstrate eye drop instillation.
		2.H.04.02 Apply an eye patch dressing.
		2.H.04.03 Assemble and assist with ear lavage.
Discuss the role of the medical assistant during spirometry		2.H.04.04 Perform spirometry testing.
List the Dietary Guidelines for Americans	2.I.01	List and summarize current dietary guidelines.
Explain the medical assistant's role in educating patients about nutrition and describe the proper		2.I.01.01 Identify and explain therapeutic diets.
		2.I.01.02 Identify and explain restrictive diets.
Demonstrate how to teach a patient to use a cane, a walker, crutches, and a wheelchair		2.J.01.01 Demonstrate proper use of a wheelchair.
		2.J.02.01 Demonstrate use of a walker.
		2.J.02.02 Demonstrate use of crutches.
		2.J.02.03 Demonstrate use of a cane.

Identify the various cold and heat therapies and demonstrate how to perform cold and heat therapy		2.J.03.01	Demonstrate application of heat/cold therapy.
Identify appropriate precautions when obtaining a sputum specimen; Describe the procedure for obtaining a sputum specimen		2.K.01.04	Collect a sputum sample.
Describe the procedure for assisting with a pelvic examination with a Pap smear		2.K.01.05	Obtain sterile cultures (urine, throat, wound, vaginal).
Describe the procedure for testing stool for occult blood	2.K.02		Perform basic stool testing.
		2.K.02.01	Perform Guaiac testing.
		2.K.02.02	Collect stool for Parasitic testing.
Explain the purpose and procedure of collecting a clean urine sample		2.K.01.02	Collect a urine sample.
	2.K.04		Perform a basic urinalysis.
		2.K.04.01	Assess urinary volume, color and clarity.
		2.K.04.02	Perform a urinalysis chemical screen via dipsticks.
		2.K.04.03	Perform microscopic urinalysis.
		2.K.03.03	Observe urine sediment.
Describe and perform the procedure for measuring blood glucose using handheld glucometer		2.K.06.02	Measure blood glucose using a glucometer.
Describe information that should be included on a laboratory requisition when sending a specimen for cytology	2.K.08		Demonstrate correct specimen process according to the Centers for Disease Control (CDC) guidelines.
		2.K.08.01	Accurately label specimen.
		2.K.08.02	Perform specimen preservation.
		2.K.08.03	Recognize specimen contamination.
		2.K.08.04	Accurately complete laboratory requisition.
		2.K.08.05	Perform specimen documentation and tracking.
Describe the structure and function of the cardiovascular system	2.L.01		Identify the anatomy of the heart.
		2.L.01.01	Trace the flow of blood throughout systemic and pulmonary circulations.
		2.L.01.02	Identify the origin of electrical activity in the heart and follow its path.
Describe the purpose and procedure of a 12-lead electrocardiogram	2.L.02		Identify characteristics of a twelve lead EKG, three channel.
		2.L.02.01	Demonstrate application of limb and chest electrodes.
		2.L.02.02	Identify electrocardiogram (EKG) artifacts/troubleshoot machine failure.
		2.L.02.03	Demonstrate application of Holter monitor.
		2.L.02.04	Identify basic arrhythmias.

POST SECONDARY PROGRAM OBJECTIVES	VET FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER	
Demonstrate fundamentals of reading and interpreting construction documents including: plan views, elevations, sections, details, symbols, schedules, the language of construction, legends, and specifications.	2.B.01.01	Identify and describe a site plan from a basic set of construction plans.
	2.B.01.02	Identify and describe a floor plan from a basic set of construction plans.
	2.B.01.03	Identify and describe a framing plan from a basic set of construction plans.
	2.B.01.04	Identify and describe elevations from a basic set of construction plans.
	2.B.01.05	Identify and describe cross sections from a basic set of construction plans.
	2.B.01.06	Identify and describe details from a basic set of construction plans.
	2.B.02.01	Identify and define abbreviations found on construction plans.
Identify line styles and weights on a set of construction documents	2.B.02.02	Identify and define object lines and dimension lines.
	2.B.02.03	Identify and define hidden lines and centerlines.
	2.B.02.04	Identify and define break line, extension line and leader line.
Identify, analyze, and interpret the relationship between various details and schedules shown on the overall plans	2.B.02.05	Identify and define window, door and stair floor plan symbols.
	2.B.02.06	Identify and define basic electric floor plan symbols.
	2.B.02.07	Identify and define basic plumbing floor plan symbols.
	2.B.02.08	Define and describe the purpose of the north symbol.
	2.B.04.01	Locate a detail view on a drawing.
	2.B.04.02	Describe the detail of the view.
	2.B.04.03	Locate the door schedule on a drawing.
	2.B.04.04	Identify the door sizes and types.
	2.B.04.05	Locate the window schedule on a drawing.
	2.B.04.06	Identify the window sizes and types.
Convert engineering dimensions to architectural dimensions	2.D.04.05	Convert cubic feet to cubic yards.
	2.D.04.06	Convert fractions to decimals.
Apply basic math skills to construction documents	2.B.03.01	Calculate missing dimensions on a plan without the use of a scale.
	2.B.03.02	Calculate finish floor to finish floor dimensions from cross section or elevations.
	2.D.04.01	Read a tape measure to 1/16th of an inch.
	2.D.04.02	Add/subtract fractions.
	2.D.04.03	Use a calculator to multiply, divide and perform basic trigonometric functions.
	2.D.04.04	Define the importance of a 3-4-5 triangle to carpentry calculations.
	2.D.04.07	Calculate the area of circles, triangles, squares, rectangles and trapezoids.
Apply fundamental math skills and critical thinking to solve basic construction problems	2.D.04.01	Read a tape measure to 1/16th of an inch.
	2.D.04.02	Add/subtract fractions.
	2.D.04.03	Use a calculator to multiply, divide and perform basic trigonometric functions.
	2.D.04.04	Define the importance of a 3-4-5 triangle to carpentry calculations.
	2.D.04.05	Convert cubic feet to cubic yards.
	2.D.04.06	Convert fractions to decimals.
	2.D.04.07	Calculate the area of circles, triangles, squares, rectangles and trapezoids.
	2.B.05.01	Develop a stock list.
	2.B.05.02	Develop a true cost for the items on the stock list.

POST SECONDARY PROGRAM OBJECTIVES	VET FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER	
Demonstrate estimating process for selected parts of a construction project including lumber pricing, girders, sill plates, bridging, floor joists, flooring, wall framing and roofing	2.B.05.01	Develop a stock list.
	2.B.05.02	Develop a true cost for the items on the stock list.
	2.B.05.03	Determine the delivery method and time frame for the stock list.
	2.B.05.04	Identify the supplier and contact information.
Identify and describe basic construction materials and their use in construction of residential buildings	2.D.01.01	Identify and describe the types of building materials.
	2.D.01.02	Describe the use of different types of building materials.
	2.D.02.01	Identify engineered building materials.
	2.D.02.02	Define the use of engineered materials.
	2.D.03.01	Identify, define, and describe pre-fabricated construction systems.
	2.D.03.02	Describe construction techniques for pre-fabricated building materials.
	2.D.03.03	Describe the installation procedures for pre-fabricated building materials.
	2.H.01.04	Explain the purpose of sill seal.
	2.H.01.02	Identify floor framing members.
	2.H.01.07	Describe the purpose for bridging and apply bridging.
	2.H.01.08	Identify subfloor material thickness.
	2.H.01.09	List the purpose of construction adhesive.
	2.H.01.10	Explain and apply nail spacing and nail sizing.
	2.H.02.06	Identify opening sizes and components for walls.
	2.H.02.07	Identify sizes for door headers.
	2.H.02.08	Identify wall framing members.
	2.H.04.07	Identify hip and valley roof systems.
	2.H.04.08	Identify roof truss systems.
	2.I.02.01	Identify insulation material systems.
	2.I.01.05	Identify proper installation of platforms, guardrails and handrails.
2.I.02.09	Identify kitchen and bath cabinets, counter tops, and installation procedures.	
2.J.01.03	Identify basic concrete form work principles and applications.	
Demonstrate fabrication process for basic construction	2.D.05.02	Layout sills.
	2.D.05.03	Check for square.
	2.D.05.04	Layout floor/ceiling joists.
	2.D.05.05	Layout exterior wall plates and shoes residential.
	2.D.05.06	Layout exterior wall plates and shoes commercial.
	2.D.05.07	Layout roof rafter.
	2.D.05.08	Layout stair stringer.
	2.D.05.09	Layout a story pole.
	2.D.07.01	Check walls for plumb using a level and a plumb bob.
	2.D.07.02	Check floors and walls for square.
	2.D.07.03	Demonstrate and describe how to check floors and ceilings of varying distances for level.
	2.E.01.01	Demonstrate use and maintenance of layout, marking, and measuring tools.
	2.H.01.01	Explain the importance of layout at 16 inches on center.
	2.H.01.03	Explain why and demonstrate how to crown joists.
	2.H.01.05	Demonstrate accurate layout to receive floor joists.
	2.H.01.06	Fabricate floor frame and stairwell openings.
	2.H.01.11	Apply subfloor material.
	2.H.02.01	Layout and construct bearing walls.
	2.H.02.02	Layout and construct bearing wall openings.
	2.H.02.03	Frame a gable end.

POST SECONDARY PROGRAM OBJECTIVES	VET FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER	
	2.H.02.04	Sheath a wall.
	2.H.02.05	Erect and brace wall systems.
	2.H.03.01	Layout and construct non-bearing walls.
	2.H.03.02	Layout and construct non-bearing wall openings.
	2.H.04.01	Layout a ceiling frame.
	2.H.04.02	Layout a roof frame.
	2.H.04.03	Cut and install ceiling frame systems.
	2.H.04.04	Cut and install common rafter systems.
	2.H.04.05	Sheath a gable roof.
	2.H.04.06	Layout and install strapping.
	2.I.01.01	Install room trim.
	2.I.01.02	Install roofing materials.
	2.I.01.03	Install windows and doors.
	2.I.01.04	Apply siding and finish trim.
	2.I.01.06	Apply caulking and weatherization materials.
	2.I.02.02	Install wall board products.
	2.I.02.03	Install door and window trim.
	2.I.02.04	Install interior doors.
	2.I.02.05	Install underlayment.
	2.I.02.06	Install baseboard trim.
	2.I.02.07	Install closet interiors.
	2.I.02.08	Install stair trim.
	2.J.01.01	Frame metal stud partitions.
	2.J.01.02	Install suspended ceiling systems.
Compare and contrast current practices in moisture, water vapor, and air infiltration control	2.K.01.01	Describe an energy efficient building envelope.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER	
Students demonstrate safe lab practices	2.A.01.01	Describe and demonstrate the safe use of hand and power tools.
	2.A.01.02	Describe and demonstrate methods of handling refrigerants safely.
	2.A.01.03	Describe and demonstrate ladder safety procedures.
	2.A.01.04	List and comply with regulations for working in confined spaces.
	2.A.01.05	List and comply with fire prevention regulations.
	2.A.02.01	Successfully complete the EPA Section 608 course.
	2.A.02.02	Successfully complete the R-410a Safety Course.
	2.A.03.01	Demonstrate techniques in the use of manifold gauges.
	2.A.03.02	Demonstrate techniques in the use of electrical meters.
	2.A.03.02	Demonstrate techniques in swedging and flaring tubing.
	2.A.03.03	Demonstrate techniques on setting-up and operating a variety of gas torches and regulators.
Identify the significance of the HVAC/R industry	2.C.01.01	Explain the importance of HVAC&R in modern society.
Identify and apply electrical switch symbols	2.B.01.01	Explain the basic layout of a set of prints as well as the importance of the accompanying job specifications document.
	2.B.01.02	Recognize and identify basic print terms, abbreviations, line types, symbols and notes.
	2.B.01.03	Interpret and follow drawing dimensions.
	2.B.01.04	Determine true measurements from a print using an architect's scale.
	2.B.01.05	Read and interpret floor plans, elevations, sections, details, ceiling plans, and finish schedules.
	2.B.01.06	Discuss and implement estimating methods for pricing jobs using drawings/prints.
	2.B.01.07	Identify, develop, and complete material quantity takeoff sheets.
Identify the characteristics and application of copper tubing	2.D.01.01	Identify, describe the use of, and install various types and sizes of steel pipe and copper tubing.
	2.D.01.02	Identify and install brass, steel, and copper fittings.
	2.D.01.04	Measure, cut, and bend copper tubing.
	2.D.01.05	Connect copper tubing using fittings, flares, and swedges.
Apply knowledge of copper tubing soldering and brazing operations	2.D.01.07	Demonstrate brazing and soldering techniques.
	2.D.01.08	Demonstrate brazing techniques using inert gas to prevent oxidation.
Apply knowledge of piping materials, tools to piping operations	2.D.01.01	Identify, describe the use of, and install various types and sizes of steel pipe and copper tubing.
	2.D.01.03	Measure, cut, ream, thread, and connect steel pipe.
	2.D.01.06	Identify and install different types of pipe hangers and supports.
	2.D.01.09	Describe and demonstrate safety requirements for pressure testing a refrigeration system.
Apply basic circuit rules to construct electrical schematics	2.E.01.11	Describe, develop, and interpret schematics and other wiring diagrams.
Describe, test, and troubleshoot components, conductors, and insulators in electrical circuits	2.E.01.01	Describe the characteristics of controls, and install components into electrical circuits – low & high voltage.
	2.E.01.02	Test and troubleshoot electrical circuits and devices using electrical meters.
	2.E.01.03	Describe and apply properties of electrical conductors and insulators.
	2.E.01.11	Describe, develop, and interpret schematics and other wiring diagrams.
	2.E.01.13	Demonstrate the use of wire isolation and line transformers, relays, contactors, timers, sequencers and switches.
	2.E.01.14	Explain and demonstrate the use of overloads, capacitors, pressure switches, solenoids, and thermostats.
	2.E.01.16	Describe and install solid-state devices.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER	
Describe and explain concepts relating to direct and alternating current (DC & AC), associated laws and how they apply to series & parallel circuits	2.E.01.04	Describe and wire series, parallel and series/parallel circuits.
	2.E.01.05	Explain concepts relating to direct current (DC) and alternating current (AC), Ohm's law, Watts's law and how they pertain to volts, amperes, ohms, impedances, and watts.
	2.E.01.06	Explain concepts relating to resistive, capacitive, and inductive loads.
Explain and apply principles of electrical rating, circuit protection & grounding and schematics	2.E.01.07	Determine voltage and current ratings of electrical devices.
	2.E.01.08	Explain and apply principles of electrical circuit protection.
	2.E.01.09	Explain and apply principles of electrical grounding.
	2.E.01.11	Describe, develop, and interpret schematics and other wiring diagrams.
	2.E.01.12	Identify and describe factory and field wiring, high and low voltage, details, and legends on wiring diagrams.
Describe and demonstrate the application and troubleshoot electric motors.	2.E.01.10	Describe and demonstrate the application of various types of electric motors.
	2.E.01.15	Demonstrate troubleshooting techniques with electrical motors.
Describe the structure of the Massachusetts Electrical Code (MEC).	2.E.01.17	Describe the structure of the Massachusetts Electrical Code (MEC).
Apply basic circuit rules to construct electrical schematics	2.E.01.11	Describe, develop, and interpret schematics and other wiring diagrams.
Use knowledge of temperature, pressure and heat transfer to identify and explain the operation of the basic refrigeration cycle	2.C.01.02	Explain the basic principles of heating, ventilating, and air conditioning & refrigeration systems.
	2.C.01.03	Define heat energy and explain how it is transferred: convection, conduction, and radiation.
	2.F.01.01	Describe and illustrate the mechanical refrigeration cycle.
	2.F.01.02	List refrigerant properties and accurately perform superheat, delta T, and sub-cooling calculations.
	2.F.01.03	Analyze and describe the operating conditions of mechanical compressors.
	2.F.01.04	Describe and install system evacuation and dehydration/degassing.
	2.F.01.05	Identify and use refrigeration leak detection methods and procedures according to industry standards.
	2.F.01.06	Describe classifications, properties, and different applications of refrigerants and use Temperature/Pressure and enthalpy charts.
	2.F.01.07	List and describe the characteristics of compressors.
	2.F.01.08	List and describe the characteristics of condensers.
2.F.01.09	List and describe the characteristics of metering devices.	
2.F.01.10	List and describe the characteristics of evaporators.	
Apply knowledge of refrigerants to properly apply refrigerants to working systems	2.F.01.11	List and describe various types of liquid line components.
	2.F.01.12	Install and describe various types of suction line components.
	2.F.01.13	Install and describe the operation of refrigerant service valves.
	2.F.01.14	Describe and use various types of refrigerant oils and lubricants.
	2.G.01.02	Demonstrate refrigerant charging techniques of air conditioning and pump systems using manufacturers' recommended procedures.
Apply knowledge of oil and gas combustion as it relates to comfort heating	2.H.01.01	Describe and follow oil heat safety.
	2.H.01.02	Describe and perform an oil burner efficiency test and adjust according to manufacturer's specifications.
	2.I.01.01	Describe and follow gas heat safety.
	2.I.01.02	Discuss and measure liquefied petroleum (L.P.) and natural gas supply and manifold pressures.
	2.I.01.03	List characteristics of, test, and operate standing pilot ignition systems.
	2.I.01.04	List characteristics of, test, and operate hot surface and electronic ignition systems.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK CONSTRUCTION OCCUPATIONAL CLUSTER		
	2.I.01.05	List characteristics of and test combustion fan motor operation.	
Apply industry standards in selecting and constructing materials used in heating system installations	2.H.01.03	Field-test furnace/boiler operation with industry approved instruments.	
	2.H.01.04	Perform a delta T reading for purposes of troubleshooting and installation according to industry standards.	
	2.H.01.05	Test and replace boiler/furnace operating and safety controls.	
	2.H.01.06	Describe steam heating systems, components and safety controls.	
	2.H.01.07	Describe, maintain and service hydronic components, pumps and circulators.	
	2.H.01.08	Install and service oil-fired boilers & furnaces.	
	2.H.01.09	Demonstrate maintenance, troubleshooting procedures, and repair of oil supply systems.	
	2.H.01.10	Define and demonstrate the operations of starting an oil burner according to manufacturers' specifications and current industry standards.	
	2.H.01.11	Describe and demonstrate methods of preparing fuel for combustion.	
	2.H.01.12	Identify and define parts and operation of an oil burner.	
	2.H.01.13	Describe the characteristics of primary and safety controls.	
	2.H.01.14	List and describe characteristics of and install venting systems for oil appliances.	
	Apply knowledge of hydronic heating components and methods to heating system installations	2.I.01.06	Perform delta T reading for purposes of troubleshooting and installation according to industry standards.
		2.I.01.07	List and describe properties of, test, and adjust combustion on a gas appliance.
2.I.01.08		List and describe characteristics of, test, replace, and adjust gas valves (positive & negatives).	
2.I.01.09		Describe potential problems with, test, adjust, and replace operating and safety controls.	
2.I.01.10		Describe characteristics of and troubleshoot 80% and 90% plus efficiency gas furnaces.	
Apply knowledge of differing venting systems used in heating systems	2.I.01.11	Install LP/Natural gas conversion kits.	
	2.I.01.12	Describe characteristics of, and maintain and service hydronic components, (e.g., pumps and circulators).	
	2.I.01.13	Install and service gas boilers and furnaces to manufacturers' specifications.	
	2.I.01.14	Describe characteristics of venting systems for gas appliances.	

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK MANUFACTURING, ENGINEERING, & TECHNOLOGY SERVICES OCCUPATIONAL CLUSTER	
Discuss regulatory rules for General Industry	1.A.01.01	Identify, understand and apply health and safety regulations that apply to specific tasks and jobs. Students must complete a safety credential program, e.g., Occupational Safety and Health Administration 10, CareerSafe and ServSafe.
	1.A.01.02	Identify, understand and apply Environmental Protection Agency (EPA) and other environmental protection regulations that apply to specific tasks and jobs in the specific occupational area.
	1.A.01.03	Identify, understand and apply Right-To-Know (Hazard Communication Policy) and other communicative regulations that apply to specific tasks and jobs in the specific occupational area.
	1.A.01.06	Identify contact information for appropriate health and safety agencies and resources.
	1.A.02.06	Locate emergency equipment, first aid kit, SDS information directories and emergency action/response plan/escape routes in your lab, shop and classroom, including labels and signage that follow OSHA Hazard Communication Program (HAZCOM), eyewash stations, shower facilities, sinks, fire extinguishers, fire blankets, telephone, master power switches and emergency exits.
Demonstrate use of personal protective equipment effectively	1.A.02.04	Demonstrate safe dress and use of relevant safety gear, personal protective equipment (PPE) and ergonomics, e.g., wrist rests, adjustable workspaces, equipment, gloves, proper footwear, earplugs, eye protection and breathing apparatus.
	1.A.02.06	Locate emergency equipment, first aid kit, SDS information directories and emergency action/response plan/escape routes in your lab, shop and classroom, including labels and signage that follow OSHA Hazard Communication Program (HAZCOM), eyewash stations, shower facilities, sinks, fire extinguishers, fire blankets, telephone, master power switches and emergency exits.
Identify hazardous conditions in the workplace and describe appropriate actions	1.A.01.04	Explain procedures for documenting and reporting hazards to appropriate authorities.
	1.A.01.05	Identify and understand potential consequences for non-compliance with appropriate health and safety regulations.
	1.A.02.10	Demonstrate proper workspace cleaning, sanitation, disinfection and sterilization procedures required in specific occupational areas, e.g., Workplace Housekeeping OSHA Regulations.
	1.A.03.01	Describe First Aid procedures for potential injuries and other health concerns in the specific occupational area.
	1.A.03.02	Describe the importance of emergency preparedness and an emergency action/response plan.
	1.A.03.03	Describe procedures used to handle emergency situations, defensive measures and accidents, including identification, reporting, response, evacuation plans and follow-up procedures.
	1.A.03.04	Identify, understand and demonstrate safety practices in specific occupational areas used to avoid accidents.
	1.A.03.05	Identify, understand and describe fire protection, protection, precautions and response procedures.
	1.A.03.06	Discuss the role of the individual and the company/organization in ensuring workplace safety including transportation to and from school, school activities and the workplace.
	1.A.03.07	Discuss ways to identify, prevent and report school and workplace violence, discrimination, harassment and bullying.
Demonstrate safe work practices	1.A.02.01	Identify, understand, describe and demonstrate the effective use of Safety Data Sheets (SDS).
	1.A.02.02	Read and interpret chemical, product and equipment labels to determine appropriate health and safety considerations.
	1.A.02.03	Identify, understand, describe and demonstrate personal, shop and job site safety practices and procedures.
	1.A.02.05	Demonstrate appropriate safe body mechanics, including proper lifting techniques and ergonomics.
	1.A.02.07	Demonstrate the safe use, storage, and maintenance of every piece of equipment in the lab, shop and classroom, e.g., the OSHA Lockout/Tagout Program (LOTO).
	1.A.02.08	Describe safety practices and procedures to be followed when working with and around electricity, e.g., ground fault circuit interrupter (GFCI) and frayed wiring.
	1.A.02.09	Properly handle, store, dispose of and recycle hazardous, flammable and combustible materials.
	1.A.02.10	Demonstrate proper workspace cleaning, sanitation, disinfection and sterilization procedures required in specific occupational areas, e.g., Workplace Housekeeping OSHA Regulations.
Identify hazardous conditions in the workplace and describe appropriate actions	1.A.03.01	Describe First Aid procedures for potential injuries and other health concerns in the specific occupational area.
	1.A.03.02	Describe the importance of emergency preparedness and an emergency action/response plan.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK MANUFACTURING, ENGINEERING, & TECHNOLOGY SERVICES OCCUPATIONAL CLUSTER	
	1.A.03.03	Describe procedures used to handle emergency situations, defensive measures and accidents, including identification, reporting, response, evacuation plans and follow-up procedures.
	1.A.03.04	Identify, understand and demonstrate safety practices in specific occupational areas used to avoid accidents.
	1.A.03.05	Identify, understand and describe fire protection, protection, precautions and response procedures.
	1.A.03.06	Discuss the role of the individual and the company/organization in ensuring workplace safety including transportation to and from school, school activities and the workplace.
	1.A.03.07	Discuss ways to identify, prevent and report school and workplace violence, discrimination, harassment and bullying.
	1.A.03.08	Demonstrate positive and appropriate behavior that contributes to a safe and healthy environment in school and the workplace.
Demonstrate concepts of machine tool safety	2.A.01.01	Utilize personal protective equipment (PPE), following OSHA regulations and industry standards.
	2.A.01.02	Explain and implement machine guarding.
	2.A.01.03	Demonstrate safe operation of equipment, following OSHA regulations and industry standards.
	2.C.01.01	Identify appropriate person(s) for maintenance and repair of equipment.
	2.C.01.02	Review and state equipment indicators to insure that equipment is operating according to manufacturer's specifications.
	2.C.01.03	Demonstrate ability to maintain equipment.
Demonstrate use of inspection equipment	2.C.01.04	Report and maintain a written log for service and repair of equipment.
	2.D.01.01	Measure work piece with a scale within a tolerance of +/- 1/64.
	2.D.01.02	Measure work piece outside diameter, inside diameter and depth with the precision instrument to a tolerance of +/- .001.
	2.D.01.03	Measure work piece with a precision caliper within a tolerance of +/- .005.
	2.D.01.04	Measure radius on a work piece using a radius gauge.
	2.D.01.05	Use a protractor to measure the angle(s).
	2.D.01.06	Measure location and diameter of a feature to a tolerance of at least +/- .001.
	2.D.01.07	Identify a thread and measure outside and pitch diameter to a tolerance of at least +/- .002.
	2.D.01.08	Compare surface finish quality of a part using surface finish comparator/gauge to print specification.
Demonstrate bench working practices	2.D.01.09	Define attributes, units, and systems of measurement used in quality control.
	2.E.01.01	Layout flat and/or round stock.
	2.E.01.02	Cut material using hacksaw to specified length and size.
	2.E.01.03	File and blend angles and radii on work piece.
Demonstrate blueprint reading skills	2.E.01.04	Mark work piece with identification information.
	2.G.01.01	Read and interpret detail drawings to meet American National Standards Institute (ANSI) and International Organization for Standards (ISO) standards.
	2.G.01.02	Read and interpret assembly drawings.
Identify production planning basics	2.G.01.03	Design and sketch a basic work piece including mathematical annotation.
	2.H.01.01	Determine and select appropriate material, size and quantity needed to complete specified product(s).
Demonstrate precision turning operations	2.H.01.02	Formulate an order of operations, proper tooling and workholding devices.
	2.M.01.01	Identify and setup workholding devices including universal and independent chucks and collets.
	2.M.01.02	Demonstrate outside turning procedures, including facing, grooving, turning diameters to a shoulder, and tapering to a specified tolerance.
	2.M.01.03	Demonstrate inside turning procedures, including boring, grooving and tapering to a specified tolerance.
	2.M.01.04	Demonstrate single-point threading to a specified tolerance.
	2.M.01.05	Demonstrate cut-off techniques.
	2.M.01.06	Machine a form into the work piece.
	2.M.01.07	Knurl a piece to design specifications from blue print.
Demonstrate precision milling operations	2.M.01.08	File and polish a work piece.
	2.N.01.01	Indicate vise within a tolerance of .001 over a 6" span.
	2.N.01.02	Tram milling head within a tolerance of .001 over a 6" diameter sweep.
	2.N.01.03	Locate a datum feature using an edge finder.

POST SECONDARY PROGRAM OBJECTIVES	VTE FRAMEWORK MANUFACTURING, ENGINEERING, & TECHNOLOGY SERVICES OCCUPATIONAL CLUSTER	
	2.N.01.04	Locate and indicate holes and pins.
	2.N.01.05	Mill a flat surface within a specified surface finish using a variety of tooling.
	2.N.01.06	Mill a variety of angles within a specified tolerance.
	2.N.01.07	Square a work piece within a specified tolerance.
	2.N.01.08	Demonstrate climb and conventional milling.
	2.N.01.09	Mill a shoulder, slots and pockets within a specified tolerance.
	2.N.01.10	Demonstrate setup and operation of a boring head.
	2.N.01.11	Bore a hole to size and location within a tolerance of +/- .005.
	2.N.01.12	Describe the operation of keys and keyways.
	2.N.01.13	Mill keyways and keyseats to specifications.
Demonstrate CNC fundamentals	2.O.01.01	Demonstrate basic CAD operations using current industry standard software. Use computer aided manufacturing (CAM) software to apply machining processes to design (e.g., speeds, feeds, cutter compensation, etc.).
	2.O.01.02	Post process program and transfer to and from CNC machine.
	2.P.01.01	Construct a safe and effective part program using G&M codes.
	2.P.01.02	Use Manual Data Input (M.D.I.) and control panel operations including simple programming, tool changes and spindle speeds.
	2.P.01.03	Demonstrate sequential start-up and shut down operations.
	2.P.01.04	Set up datum point, tool length offsets and tool geometry offsets.
	2.P.01.05	Set cutter compensation.
2.P.01.06	Load programs, dry run, edit, and execute program.	